

- commissure 10. *L. abolinii*
 17b. Ultimate leaf segments oblong to linear-lanceolate, 5–40 × 3–7 mm; marginal
 fruit ribs considerably larger than dorsal; vittae (1–)2–3 in each furrow,
 (2–)4–6 on commissure 11. *L. grubovii*

1. *Libanotis buchtormensis* (Fischer) de Candolle, Coll. Mém. 5: t. 3, f. 5. 1829.

岩风 yan feng

Bubon buchtormensis Fischer in Sprengel, Pl. Min. Cogn. Pug. 2: 55. 1815; *Libanotis cycloloba* Gilli; *Seseli buchtormense* (Fischer) W. D. J. Koch; *Seseli cyclolobum* (Gilli) Pimenov & Sdobnina; *Seseli giraldii* Diels.

Plants 20–80 cm. Taproot ca. 1.5 cm thick, caudex simple. Stem rigid, branched from base or above, strongly angled, fluted, glabrous. Petioles triangular-flattened in cross section, adaxially shallowly fluted; blade oblong-ovate or lanceolate, 5–12 × 2.5–7 cm, 2-pinnatisect, glabrous; pinnae sessile or very shortly petiolulate; ultimate segments ovate or obovate-cuneate, 5–30 × 3–15 mm, with 3–5 incised mucronate teeth, abaxially papillate only along rachis and veins. Umbels 7–12 cm across, peduncles stout, angled and branching; bracts usually absent, occasionally few, linear, small; rays 30–50, 0.8–4(–7) cm, equal, angled, tomentose; bracteoles 8–15(–20), linear, ca. equal to pedicels, villous; pedicels 2–5 mm. Calyx teeth linear-subulate to lanceolate, ca. 0.7 mm, pubescent. Petals white, abaxially densely pubescent. Fruit ellipsoid, slightly dorsally compressed, 2–4.5 × 1.5–2.5 mm, densely tomentose or squamose-scaly, especially along ridges; all ribs prominent, acute, equally keeled; vittae 1 in each furrow, 2 on commissure. Fl. and fr. Jul–Nov.

Grassy places, sunny rocky slopes, river banks, rock crevices; 1000–3000 m. S Gansu (Huixian, Tianshui), Ningxia, SW Shaanxi (Meixian, Taibai), W Sichuan (Kangding), N Xinjiang (Altay, Tekes, Toli) [Afghanistan, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Russia (Siberia)].

This species has reputed medicinal value (in Shaanxi).

2. *Libanotis iliensis* (Lipsky) Korovin in Pavlov, Fl. Kazakhst. 6: 345. 1963.

伊犁岩风 yi li yan feng

Seseli iliense Lipsky in B. Fedtschenko, Pl. Turkest. 616. 1915; *S. altissimum* Popov; *S. fedtschenkoanum* Regel & Schmalhausen var. *iliense* Regel & Schmalhausen; *S. vaillantii* H. de Boissieu.

Plants 100–200 cm. Taproot to 2 cm thick, caudex simple. Stem branched from base, solid, grooved, densely minutely pubescent, base 1–2 cm thick. Petioles densely pubescent, sheaths scarious-margined; blade triangular-ovate, 40–50 × 6–10 cm, 2–3-pinnatisect; ultimate segments linear, 10–40 × 0.5–1 mm, margins reflexed. Synflorescence paniculate; umbels 2–4 cm across; bracts 5–10, white, ovate-lanceolate, 3–5 × 1–1.2 mm, pubescent; rays 10–15(–20), 1–2 cm, slightly unequal, pubescent; bracteoles 5–10, ovate-lanceolate, 1.5–4(–15) × 0.6–0.7 mm, scarious-margined, abaxially densely pubescent; umbellules 10–20-flowered, subcapitate, flowers almost sessile. Calyx teeth short-triangular or subulate, 0.2–0.5 mm, pubescent. Petals white, abaxially pubescent. Fruit oblong or ellip-

soid, slightly dorsally compressed, 2.8–4 × 0.6–0.7 mm, densely pubescent; ribs filiform; vittae 1 in each furrow, 2 on commissure. Fl. and fr. Jun–Sep.

Stony mountain slopes, valleys; 1000–2100 m. Xinjiang (Ili, Urumqi) [Kazakhstan, Mongolia].

This species is used in Xinjiang as a regional substitute for the traditional Chinese medicine “fang feng” (*Saposhnikovia divaricata*).

3. *Libanotis wannienchun* K. T. Fu, Fl. Tsinling. 1(3): 458. 1981.

万年春 wan nian chun

Seseli wannienchun (K. T. Fu) Pimenov.

Plants 60–80 cm, pubescent throughout. Caudex simple, stout, exposed. Stem solitary, erect, branched above, solid, finely grooved. Basal leaves numerous; petioles dilated, slightly flattened, 2–7 cm; blade narrowly oblong, 5–15 × 3–6.5 cm, 2-pinnate; leaflets 4–7 pairs, sessile or shortly petiolulate, 3-parted; lateral lobes oblong, 5–15 × 4–10 mm, 1–3 incised-toothed; terminal lobe obovate, base cuneate, 3–5-lobed or dentate, abaxially reticulate and densely pubescent. Synflorescence corymbose; umbels 2.5–4.5 cm across; peduncles stout, densely tomentose; bracts absent; rays 10–14, 0.5–2 cm, slightly unequal, densely villous; bracteoles 10–12, lanceolate, 2.5–3 mm, densely pubescent; umbellules 14–20-flowered; pedicels ca. 2.5 mm. Calyx teeth narrowly triangular or lanceolate-subulate, ca. 1.5 mm. Petals greenish-white, abaxially villous. Stylopodium low-conic; styles short. Young fruit densely pubescent (mature fruit unknown). Fl. Aug.

• Dry grassy slopes; 1200–1400 m. S Gansu (Chengxian, Huixian, Têwo).

This incompletely known taxon is recorded only from a few collections.

4. *Libanotis lanzhouensis* K. T. Fu ex R. H. Shan & M. L. Sheh, Acta Phytotax. Sin. 21: 84. 1983.

兰州岩风 lan zhou yan feng

Seseli lanzhouense (K. T. Fu ex R. H. Shan & M. L. Sheh) V. M. Vinogradova.

Plants 30–90 cm, herbaceous, densely pubescent throughout. Caudex simple. Stems several, suberect, branched from base, branches slender, spreading. Basal leaves numerous; blade oblong, 9–25 × 2–8 cm, 2–3-pinnately dissected; pinnae 4–7 pairs, pinnules 3 pairs; ultimate segments gray-green, linear or rhombic, 4–12 × 1.5–2 mm. Synflorescence paniculate; umbels 2–3 cm across; peduncles slender; bracts absent or occasionally 1 (like uppermost leaf); rays 2–4, 4–15 mm, slightly unequal; bracteoles 5–7, linear-lanceolate, 1.5–2 × ca. 1 mm; umbellules 5–10-flowered. Calyx teeth subulate, 0.6–1 mm. Petals white, abaxially puberulous. Stylopodium conic, base margin dilated, undulate. Fruit ellipsoid, flattened laterally, 2.8–3.2 × 1.4–1.5 mm, densely villous; ribs equal, filiform, slightly prominent; vittae 1(–2) in each furrow, 2 on commissure. Fl.

and fr. Jul–Oct.

- Mountain slopes. Gansu (Lanzhou), Qinghai.

5. Libanotis spodotrichoma K. T. Fu, Acta Phytotax. Sin. 13(2): 58. 1975.

灰毛岩风 hui mao yan feng

Seseli spodotrichoma (K. T. Fu) Pimenov.

Plants (25–)40–80 cm, subshrubs, grayish pubescent throughout. Caudex simple. Stem branched above, solid, terete, woody at base. Basal leaves numerous; blade gray-green, elliptic-oblong, 10–25 × 4–8 cm, 2-pinnately dissected; pinnae 5–7 pairs, shortly petiolulate, pinnules 2–3 pairs, ovate; terminal pinnules obovate-cuneate, lateral pinnules ovate, 2.5–5 × 1.7–2.7 cm, 1–3-toothed or lobed, apex mucronate. Synflorescence paniculate; umbels 2–7 cm across; bracts absent; rays 5–12, 1–3.5 cm, slightly unequal, spreading, pubescent; bracteoles 7–10, lanceolate-linear, ca. 2 mm, entire; umbellules 15–30-flowered; pedicels ca. 3 mm, unequal. Calyx teeth narrowly triangular or lanceolate-subulate, ca. 0.6 mm. Petals white, abaxially villous. Stylopodium low-conic; styles suberect. Fruit obovate-oblong, slightly dorsally compressed, 3–4(–6) × 1–1.5 mm, grayish-villous; ribs slightly prominent, filiform; vittae 1 in each furrow, 2 on commissure. Fl. and fr. Aug–Oct.

- Rocky slopes in valleys; 1100–1800 m. SW Shaanxi.

This species has reputed medicinal value.

6. Libanotis lancifolia K. T. Fu, Acta Phytotax. Sin. 13(2): 59. 1975.

条叶岩风 tiao ye yan feng

Seseli lancifolium (K. T. Fu) Pimenov.

Plants (25–)40–90 cm, subshrubs. Caudex simple. Stem solitary, dichotomously branched, usually purple-tinged, basal parts woody. Leaf blade triangular-ovate, 15–25 × 8–15 cm, ternate-2-pinnatisect; primary segments petiolulate; ultimate segments elliptic-lanceolate, 2–5 × 2.5–10(–13) mm, glaucous, entire. Cauline leaves reduced upwards, 3-parted, petioles wholly sheathing, linear-lanceolate, abaxially bristly. Synflorescence many-branched, paniculate; umbels 2–4 cm across; bracts absent; rays 4–9, 3–15 mm, slightly unequal, densely tomentose; bracteoles 5–7, linear-lanceolate, shorter than flowers, abaxially densely villous; umbellules 5–10-flowered; pedicels 1–3 mm. Calyx teeth triangular-subulate or triangular, ca. 0.5 mm. Petals white to purplish-tinged, abaxially pubescent. Fruit oblong, slightly compressed dorsally, ca. 3–3.2 × 1–1.1 mm, densely puberulent; ribs filiform; vittae 1(–2) in each furrow, 2 on commissure. Fl. Sep–Oct, fr. Oct–Nov.

- Forests, among shrubs; 400–1100 m. Hebei, Henan, SE Shaanxi (Shanyang, Huayin), Shandong, E Shanxi (Pingding, Wutai).

This species has reputed medicinal value.

7. Libanotis laticalcina R. H. Shan & M. L. Sheh, Acta Phytotax. Sin. 21: 82. 1983.

宽萼岩风 kuan e yan feng

Seseli laticalcina (R. H. Shan & M. L. Sheh) Pimenov.

Plants 34–70 cm. Caudex simple. Stem solitary, multi-dichotomously branched, solid, finely grooved, glabrous, scabrous under umbels. Petioles somewhat flattened, adaxially shallowly grooved; blade broadly ovate, 9–12 × 4–6 cm, 2–3-pinnate; pinnae 3–4 pairs, remote, petiolulate except for terminal or apical divisions; pinnules 3-parted, sessile; ultimate segments obovate, 10–15 × 5–10 mm, base cuneate, distally 3-lobed, apex subtruncate, mucronate, both surfaces glabrous, more or less glaucous. Synflorescence paniculate, branches short, densely puberulous; umbels 0.5–1.5 cm across; bracts 2–3, ovate-lanceolate, ca. 1.5 × 1 mm, scarious; rays 2–4, 1.5–4 mm, slightly unequal, puberulous; bracteoles 4–5, unequal, lanceolate, longer than flowers; umbellules 3–6-flowered; pedicels ca. 1 mm. Calyx teeth triangular-ovate, ca. 0.7 mm. Petals white, abaxially densely puberulous. Young fruit elliptic, slightly dorsally compressed, 1.2–1.5 mm across (mature fruit unknown); ribs almost equal, shortly keeled; vittae 1 in each furrow, 2 on commissure. Fl. and fr. Aug–Sep.

- Mountain slopes; ca. 1600 m. Hebei, W Henan (Lingbao, Songxian), SW Shanxi (Ruicheng).

This species is used in Shanxi as a regional substitute, known as “shui fang feng,” for the traditional Chinese medicine “fang feng” (*Saposhnikovia divaricata*).

8. Libanotis jinanensis L. C. Xu & M. D. Xu, Bull. Bot. Res., Harbin 9(1): 37. 1989.

济南岩风 ji nan yan feng

Seseli jinanense (L. C. Xu & M. D. Xu) Pimenov.

Plants 25–50 cm, herbaceous, sparsely puberulent throughout. Caudex simple. Stem solitary, branched from base, sometimes simple, finely grooved. Basal leaves numerous; blade long-ovate, 6–32 × 2–16 cm, 2–3-pinnatisect; pinnae 4–7 pairs, petiolulate; pinnules 1–2 pairs, rhombic-obovate, 2–3-parted; terminal segments obovate-cuneate, 2–4 × 1.2–2.5 cm, irregular dentate; lateral segments oblong or ovate, 12–24 × 8–16 mm, toothed or lobed. Synflorescence much-branched; umbels 2–6 cm across; peduncles densely tomentose; bracts absent, occasionally 1–2; rays 4–9, 1.5–3 cm, ca. equal, densely tomentose; bracteoles 10–12, narrowly triangular, ca. 2 × 0.3 mm; umbellules 12–30-flowered; pedicels 2–3 mm. Calyx teeth triangular-lanceolate, ca. 0.5 mm. Petals white or pinkish, densely puberulent abaxially. Fruit oblong-ovoid, slightly dorsally compressed, 3–4 × 1.5–1.8 mm, densely white pubescent; ribs equal, shortly keeled; vittae 1 in each furrow, 2 on commissure. Fl. and fr. Aug–Oct.

- Mountain slopes; 500–600 m. W Shandong (Jinan).

9. Libanotis eriocarpa Schrenk, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Petersbourg 2: 195. 1843.

绵毛岩风 mian mao yan feng

Seseli eriocarpum (Schrenk) B. Fedtschenko.

Plants (20–)40–50 cm. Caudex simple, 3–7 mm thick. Stem solitary, dichotomously branched from base or in upper part, solid, finely grooved, glabrous. Leaf blade gray-green, oblong, 6–14 × 2–5 cm, 2-pinnate; pinnae shortly petiolulate; ultimate

segments linear, 5–20 × 1–3 mm, margins narrowly revolute. Cauline leaves reduced, 3-lobed or undivided. Synflorescence paniculate; umbels 1–2(–3.5) cm across; bracts (2–)4–7, lanceolate or ovate, short, unequal, abaxially pubescent, margins scarious, bases fused together; rays (2–)4–8, 5–10 mm, densely pubescent; bracteoles 5–8, lanceolate, 0.3–1.5 mm, connate at base; umbellules 10–20-flowered, subcapitate, flowers sessile. Calyx teeth lanceolate. Petals white or pale yellow, abaxially pubescent. Styles usually purplish, more than 3 × stylopodium, divergent. Fruit oblong or oblong-ovate, dorsally compressed 5–6(–10) × 3.5–4.5(–6) mm, densely lanate with gray hairs or sparsely pilose; lateral ribs winged, broader than the keeled dorsal ribs, slightly corky; vittae 1 in each furrow, 2 on commissure. Fl. and fr. Jul–Sep.

Mountain summits, dry stony and gravelly slopes, rock crevices; ca. 1600 m. Xinjiang [Kazakhstan, Mongolia].

10. *Libanotis abolinii* (Korovin) Korovin in Pavlov, Fl. Kazakhst. 6: 351. 1963.

狼山岩风 lang shan yan feng

Phlojodicarpus abolinii Korovin, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 5: 74. 1924; *Libanotis songorica* (Schischkin) Korovin; *L. michaylovae* Korovin; *Seseli abolinii* (Korovin) Schischkin; *S. langshanense* Y. Z. Zhao & Y. C. Ma; *S. songoricum* Schischkin.

Plants 10–25(–60) cm, often grayish-blue throughout. Caudex simple, thick. Stems several, erect, branched above, solid, finely grooved, sometimes woody at base, glabrous or minutely hispid. Basal leaves numerous, petioles shorter than the blade, pubescent; blade narrowly oblong, 3–12 × 1–3.5 cm, 2–3-pinnate to pinnately dissected; pinnae 4–7 pairs, sessile; ultimate segments linear-lanceolate, 1–5 × 0.5–1 mm, glabrous. Cauline leaves reduced, 1–2-pinnately dissected, petioles wholly sheathing. Synflorescence corymbose; umbels 2–4 cm across, terminal and lateral; bracts 5–10, lanceolate, hispid; rays 5–15, unequal, hispid; bracteoles 5–8(–13), lanceolate, equaling or exceeding the flowers, margins scarious, becoming reflexed; umbellules 13–17-flowered; pedicels 1.5–2.5 mm. Petals white or tinged purple, puberulent abaxially, sometimes glabrous. Calyx teeth ovate-lanceolate or lanceolate, 0.2–0.3 mm, densely hispid. Stylopodium low-conic; styles short, erect. Fruit oblong to ellipsoid, dorsally compressed, ca. 3 × 1.5 mm, densely short-pubescent; ribs about equal, filiform; vittae 1 in each furrow, 2 on commissure. Fl. & fr. Jul–Sep.

Stony or gravelly mountain slopes, sandy areas; 1000–2100 m. Nei Mongol, Xinjiang [Kazakhstan, Mongolia].

11. *Libanotis grubovii* (V. M. Vinogradova & Sanchir) M. L. Sheh & M. F. Watson, Acta Phytotax. Sin. 42: 563. 2004.

锐棱岩风 rui leng yan feng

Seseli grubovii V. M. Vinogradova & Sanchir, Bot. Zhurn. 70: 965. 1985.

Plants (20–)30–50(–80) cm, polycarpic. Caudex branched. Stems several, branched from base, solid, terete, glabrous. Leaf blade lanceolate to oblong, 10–20 × 3–6 cm, 1–2-pinnatisect, glabrous; pinnae sessile or shortly petiolulate; ultimate segments

oblong to linear-lanceolate, 5–40 × 3–7 mm, acute. Upper leaves entire, rarely pinnate. Synflorescence paniculate; umbels 3–4 cm across; bracts 8–10, linear-lanceolate, herbaceous, puberulent; rays 6–10(–14), equal, puberulent; bracteoles 8–10, similar to bracts; umbellules 10–15-flowered. Calyx teeth lanceolate-triangular. Petals white, abaxially pubescent. Stylopodium low-conic; styles 2–3 × stylopodium, reflexed. Fruit ovoid or ellipsoid, dorsally compressed, 4.8–5.5 × 2.7–4 mm, shortly hairy; ribs unequal, dorsal ribs keeled, acute, marginal ribs shortly winged; vittae (1–)2–3 in each furrow, (2–)4–6 on commissure. Fl. and fr. Jul–Aug.

Schistose or limestone slopes, rock crevices; 1600–2400 m. Xinjiang [Mongolia].

12. *Libanotis condensata* (Linnaeus) Crantz, Class. Umbell. Emend. 105. 1767.

密花岗岩 mi hua yan feng

Athamanta condensata Linnaeus, Sp. Pl. 2: 1195. 1753; *Libanotis laserpitifolia* (Palibin) K. T. Fu; *L. vulgaris* de Candolle var. *condensata* (Linnaeus) de Candolle; *Pachypleurum condensatum* (Linnaeus) Korovin; *Peucedanum condensatum* (Linnaeus) Koso-Poljansky; *Seseli condensatum* (Linnaeus) H. G. Reichenbach; *S. laserpitifolium* Palibin.

Plants 20–90 cm. Caudex branched. Stem solitary, branched above or simple, hollow, glabrous, angled and fluted. Leaf blade oblong, 6–30 × 2–10 cm, 2–3-pinnatisect; ultimate segments linear, 2–15 × 1–2 mm, hirsute on both surfaces along rachis and veins, margins hirsutulous, apex acuminate or acute. Synflorescence corymbose; umbels terminal, 3–7 cm across; peduncle apex densely hirsute; bracts 6–10, linear, ca. 1.5 cm, scarious-margined, pubescent; rays 15–25, ca. 2 cm, subequal, stout; bracteoles several, linear, exceeding flowers, villous; umbellules 15–20-flowered; pedicels ca. 4 mm. Calyx teeth subulate, 0.2–0.4 mm, pubescent. Petals white, glabrous or abaxially sparsely pubescent. Stylopodium dark purple, conic. Fruit ellipsoid, moderately dorsally compressed, 3–4 × 2–3 mm, densely villous; vittae 2–4 in each furrow, 4 on commissure. Fl. and fr. Jul–Sep.

Forest margins, grassy places, streamsides; 1400–2400 m. Hebei, Nei Mongol, N Shanxi (Ningwu), N Xinjiang (Altay) [Kazakhstan, Mongolia, S and SE Russia].

This species has reputed medicinal value (in Shanxi).

13. *Libanotis seseloides* (Fischer & C. A. Meyer ex Turczaninow) Turczaninow, Bull. Soc. Imp. Naturalistes Moscou 17: 725. 1844.

香芹 xiang qin

Ligusticum seseloides Fischer & C. A. Meyer ex Turczaninow, Bull. Soc. Imp. Naturalistes Moscou 11: 530. 1838; *Libanotis amurensis* Schischkin; *L. montana* Crantz var. *riviniiana* Ledebour; *Seseli rivinianum* (Ledebour) M. Hiroe; *S. seseloides* (Fischer & C. A. Meyer ex Turczaninow) M. Hiroe.

Plants 30–130 cm. Caudex simple. Stem solitary, rigid, branching from the middle, solid, acute-ridged, deeply fluted, nodes puberulent or glabrous. Leaf blade broad-elliptic, 5–18 × 4–10 cm, 3-pinnatisect; ultimate segments linear-lanceolate, 3–

15 × 1–4 mm, margins narrowly revolute, apex apiculate. Synflorescence much-branched; umbels 2–7 cm across; peduncles hirsute; bracts absent, occasionally 1–5, subulate or linear, ca. 4 × 0.2 mm; rays 8–20, 1–2.5 cm, inner faces and bases hispid; bracteoles 8–14, linear, ca. 1.5 × 0.1 mm, margins pubescent; umbellules 15–30-flowered; pedicels 1–5.5 mm. Calyx teeth triangular or lanceolate, ca. 0.5 mm, pubescent. Petals white, abaxially puberulent. Fruit oblong-ovoid, slightly dorsally compressed, 2.5–3.5 × ca. 1.5 mm; lateral ribs slightly broader than the dorsal; vittae 3–4 in each furrow, 6 on commissure. Fl. and fr. Jul–Oct.

Open grassy slopes. Henan, Heilongjiang, Jilin, Liaoning, Nei Mongol, Jiangsu, Shandong [E and NE Asia, C Europe].

The leaves of this species form the dietary herb “xie hao” of traditional Chinese medicine, used to aid digestion and alleviate dysentery.

14. *Libanotis incana* (Stephan ex Willdenow) O. Fedtschenko & B. Fedtschenko, *Consp. Fl. Turkest.* 3: 94. 1909.

碎叶岩风 sui ye yan feng

Athamanta incana Stephan ex Willdenow, *Sp. Pl.* 1: 1402. 1798; *Libanotis patriniana* de Candolle; *Seseli graveolens* Ledebour; *S. incanum* (Stephan ex Willdenow) B. Fedtschenko.

Plants (25–)30–60(–90) cm. Caudex simple, ca. 1 cm thick. Stem solitary, thick, branching from base or middle, finely grooved to shallowly fluted, densely gray-white tomentose. Petioles densely gray-white pubescent; blade narrow-elliptic, 10–15 × 2–6 cm, 3-pinnatisect; ultimate segments linear, 1–3 × 0.2–0.6 mm, gray-white pubescent on both surfaces, apex apiculate; rachis fluted. Umbels 6–12 cm across; bracts absent or few, linear, acuminate, ca. 5 × 0.5 mm; rays (15–)20–35, 4–5 cm, subequal, densely white tomentose; bracteoles 12–15, ovate-lanceolate, 2.5–3 × 0.5–1 mm, bases fused together, apex sometimes 2–3-toothed, densely pubescent; umbellules 40–50-flowered; pedicels 2–3 mm. Calyx teeth lanceolate, ca. 1 mm, puberulous. Petals white, abaxially puberulent. Fruit ovate or ellipsoid, slightly flattened dorsally, 3.2–4.7 × 2–3.5 mm, densely pubescent; vittae 1 in each furrow, 2 on commissure. Fl. and fr. Jul–Aug.

Dry scrubland, gravelly slopes, sunny places; ca. 1300 m. N Xinjiang (Toli) [Kazakhstan].

15. *Libanotis sibirica* (Linnaeus) C. A. Meyer, *Verzeichn. Pfl. Cauc.* 124. 1831.

亚洲岩风 ya zhou yan feng

Athamanta sibirica Linnaeus, *Sp. Pl.* 1: 244. 1753; *Seseli libanotis* (Linnaeus) W. D. J. Koch subsp. *sibiricum* (Linnaeus) Thellung; *S. libanotis* var. *sibiricum* (Linnaeus) de Candolle; *S. sibiricum* (Linnaeus) Garcke.

Plants 30–100(–12) cm. Caudex simple, 1–2 cm thick. Stem solitary, shallowly fluted, purplish at base. Basal leaves numerous, petioles shorter than blade, distal leaf rachis shallowly grooved; blade ovate-oblong in outline, 15–40 × 5–10 cm, pinnate to 2-pinnately parted; pinnae 8–9 pairs, sessile; pinnules ovate, rhombic or lanceolate, 15–30 × 6–15 mm, 3–5-lobed or incised-dentate, abaxially ciliate hairy along margins and veins. Umbels 7–12 cm across; bracts absent or few, linear,

very small; rays (20–)35–50, 3–7 cm, unequal, hirsutulous; bracteoles 12–15, linear, 1.5–2 × ca. 0.5 mm, shorter than or equaling flowers; pedicels 1.5–5.5 mm. Calyx teeth triangular-lanceolate, ca. 0.7 mm. Petals white or pinkish, abaxially glabrous. Fruit ovoid-ellipsoid, dorsally compressed, 3–4 × 1.5–2 mm, glabrous or puberulent; vittae 1 in each furrow, 4 on commissure. Fl. and fr. Jul–Aug.

Forest margins, among shrubs, open grassy places; 1000–1400 m. Gansu, Shaanxi, Xinjiang [Kazakhstan, Russia].

This species is used in Gansu and Shaanxi as a regional substitute for the traditional Chinese medicine “fang feng” (*Saposhnikovia divaricata*).

16. *Libanotis schrenkiana* C. A. Meyer ex Schischkin in Schischkin & Bobrov, *Fl. URSS* 16: 601. 1950.

坚挺岩风 jian ting yan feng

Seseli schrenkianum (C. A. Meyer ex Schischkin) Pimenov & Sdobnina.

Plants 40–110(–130) cm. Caudex branched. Stems usually several, or solitary, erect, branched above, solid, finely ribbed, scattered puberulent. Basal leaves with long petioles, rachis shallowly grooved; blade oblong-ovate, 10–40 × 6–12 cm, 2-pinnatisect; pinnae 5–7 pairs, sessile; ultimate segments linear-lanceolate, 3–10 × 1–3 mm, sometimes ovate-rhombic, ca. 15 × 7 mm, 1–3-serrate, margins narrowly revolute, both surfaces glaucous and sparsely puberulent. Umbels (3–)5–10 cm across; peduncles stout, elongate, apex pubescent; bracts absent or 3–9, subulate to linear, 1–5 mm; rays 15–25(–40), 1–4 cm, almost equal; bracteoles 10–12, linear, 2–6 × ca. 1 mm, shorter than flowers, puberulous; umbellules many-flowered; pedicels 1.5–6(–9) mm. Calyx teeth triangular-lanceolate, ca. 0.5 mm. Petals white, glabrous. Fruit ellipsoid, slightly dorsally compressed, 2–3.5 × 0.7–2 mm, densely pubescent when young, becoming sparsely puberulous; ribs subequal, shortly keeled; vittae 1 in each furrow, 2 on commissure. Fl. and fr. Aug–Sep.

Among shrubs, grassy slopes, gravelly soils, roadsides; 1700–2600 m. NW Xinjiang [Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan].

17. *Libanotis acaulis* R. H. Shan & M. L. Sheh, *Acta Phytotax. Sin.* 21: 84. 1983.

Seseli acaule (R. H. Shan & M. L. Sheh) V. M. Vinogradova.

阔鞘岩风 kuo qiao yan feng

Plants 4–8 cm, acaulescent, dwarf, rosette, often diffuse. Taproot undivided. Leaf sheath broadly ovate, margin scarios and pubescent; leaf rachis broad, shallowly grooved; blade oblong, 1–3 × 0.7–1.2 cm, 2-pinnatisect; pinnae 4 pairs; ultimate segments linear-elliptic, 2–3 × 0.8–1 mm, apex apiculate, 2-furcate, glabrous. Upper leaves sessile, sheaths broadly lanceolate, clasping, blade small, 3-lobed. Terminal umbel to 7.5 cm across, sessile, appearing as a group of simple umbels; lateral umbels 0.7–2 cm across, peduncles 0.5–1 cm; rays 7–10, 0.8–1 cm; bracts 1–2; bracteoles 10–20, lanceolate, 3–6 × 0.5–1 mm, unequal; umbellules 15–20-flowered; pedicels 2.5–3 mm. Calyx teeth triangular-lanceolate, ca. 0.8 × 0.5 mm. Petals white,

glabrous. Fruit oblong, slightly dorsally compressed, 2–2.5 × 1.5–1.8 mm, gray-brown, densely scaly-tomentose; vittae 2–3 in each furrow, 4–6 on commissure. Fl. and fr. Jul–Aug.

- Dry grassy places; 2300–2600 m. C Xinjiang (Hejing).

This rather poorly known species is recorded only from a few localities.

18. *Libanotis depressa* R. H. Shan & M. L. Sheh, *Acta Phytotax. Sin.* 21: 82. 1983.

Seseli depressum (R. H. Shan & M. L. Sheh) V. M. Vinogradova.

地岩风 di yan feng

Plants 2–5 cm, dwarf, acaulescent, rosette. Taproot 2–6 × 0.8–1.2 cm, undivided. Petioles 0.5–3.5 cm, sheaths narrowly lanceolate; blade oblong, 2–5 × 0.5–1.8 cm, 2-pinnatisect; pinnae 2–4 pairs; ultimate segments linear-lanceolate, 0.3–1 × 0.5–

1 mm, base and margins pilose, apex apiculate, glabrous or minutely puberulent. Terminal umbel 4–9 cm across, sessile, appearing as a group of simple umbels, lateral umbels few, smaller, on long peduncles, stout, puberulent; bracts 1–2, usually obscured by leaf rosette; rays 6–10, 1–6 cm, densely puberulent; bracteoles 7–11, acicular, 3–9 mm, very unequal, the largest longer than flowers; umbellules 10–20-flowered; pedicels 1–4 mm, pubescent. Calyx teeth lanceolate, very conspicuous, ca. 1 × 0.4 mm, sometimes ca. 0.5 × fruit. Petals white, costa yellowish, glabrous. Styles 2–3 × stylopodium, reflexed. Fruit oblong or suborbicular, slightly dorsally compressed, 2–2.5 × 1.3–1.5 mm, densely scaly-hispid; ribs filiform, prominent; vittae large, 1 in each furrow, 2 on commissure. Fl. and fr. Jul–Sep.

- Grassy places, river banks; 3400–4100 m. S Qinghai (Yushu), NW Sichuan (Dêgê), E Xizang (Gonjo).

This and the previous species have an unusual fruit ornamentation similar to that seen in *Stenocoelium*. These two species are part of a group of dwarf, high-altitude Himalayan rosette-forming umbellifers that are not easy to identify; see also *Cortia*, *Cortiella*, *Pleurospermum hedinii*, etc.

